

AMENDMENTS TO THE CLAIMS

1-36 (Cancelled)

37. (New) Nozzle arrangement for the treatment of treated material with a treatment medium,

wherein the treated material is capable of being conveyed within a treatment channel in a conveying plane in a conveying direction from an inlet area to an outlet area of the nozzle arrangement,

at least one nozzle aperture being provided, which is designed in such a way that a flow of the treatment medium through the nozzle aperture runs at a predetermined angle obliquely in relation to the conveying plane of the treated material, so that the flow of the treated medium is deflected into the conveying direction of the treated material,

wherein the nozzle arrangement is designed for the treatment of a film-type treated material, and

wherein the treatment channel enlarges in a section between the at least one nozzle aperture and the outlet area in the conveying direction, or the outlet area is provided with guide elements for improved guiding of the film-type treated material, or the at least one nozzle aperture is designed in the form of a slot.

38. (New) Nozzle arrangement according to Claim 37,
wherein the at least one nozzle aperture is formed by at least one nozzle aperture channel, which extends at an acute angle in relation to the conveying plane of the treated material.

39. (New) Nozzle arrangement according to Claim 38,
wherein the angle amounts to a maximum of 80°.

40. (New) Nozzle arrangement according to Claim 38,
wherein the at least one nozzle aperture is designed to emit the treatment medium, and wherein the angle opens against the conveying direction of the treated material.

41. (New) Nozzle arrangement according to Claim 40,

wherein the at least one nozzle aperture is arranged in a housing wall extending essentially along the conveying plane in such a way that a distance between the at least one nozzle aperture and the inlet area is smaller than a distance between the at least one nozzle aperture and the outlet area.

42. (New) Nozzle arrangement according to Claim 38,
wherein the at least one nozzle aperture is designed to receive the treatment medium, and
wherein the angle opens in the conveying direction of the treated material.

43. (New) Nozzle arrangement according to Claim 42,
wherein the at least one nozzle aperture is arranged in a housing wall extending essentially along the conveying plane, in such a way that a distance between the at least one nozzle aperture and the outlet area is smaller than a distance between the at least one nozzle aperture and the inlet area.

44. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement is designed in such a way that a distance between a housing wall of the nozzle arrangement and the conveying plane decreases in a section between the inlet area and the at least one nozzle aperture in the conveying direction of the treated material, so that in this section a channel opening in a wedge shape in the direction of the inlet area is formed between the housing wall and the conveying plane.

45. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement is designed in such a way that a distance between a housing wall of the nozzle arrangement and the conveying plane increases in a section between the at least one nozzle aperture and the outlet area in the conveying direction of the treated material, so that in this section a channel is formed which opens in a wedge shape in the direction of the outlet area, between the housing wall and the conveying plane.

46. (New) Nozzle arrangement according to Claim 37,
wherein the at least one nozzle aperture extends over a width in a direction perpendicular to the conveying direction along the conveying plane.

47. (New) Nozzle arrangement according to Claim 37,
wherein the slot is formed by a housing wall of the nozzle arrangement and by a removable strip.

48. (New) Nozzle arrangement according to Claim 47,
wherein the slot is delimited on at least one side by a nozzle rail, which is located in an adjustable manner at a housing wall of the nozzle arrangement.

49. (New) Nozzle arrangement according to Claim 48,
wherein the nozzle rail is exchangeable, in order to be able to select different geometries of the nozzle aperture.

50. (New) Nozzle arrangement according to Claim 48,
wherein the nozzle rail defines a front edge of the nozzle arrangement in the inlet area.

51. (New) Nozzle arrangement according to Claim 46,
wherein the at least one nozzle aperture comprises several apertures, which are spaced from one another along the direction perpendicular to the conveying direction and parallel to the conveying plane.

52. (New) Nozzle arrangement according to Claim 46,
wherein the nozzle arrangement comprises a medium channel extending along at least one nozzle aperture for transport of the treatment medium, which is connected to the at least one nozzle aperture by distribution apertures which are spaced from one another along the at least one nozzle aperture.

53. (New) Nozzle arrangement according to Claim 52,
wherein the medium channel is designed in such a way that a passage cross-section of the medium channel decreases as the distance from a connection aperture provided for the delivery or removal respectively of the treatment medium increases.

54. (New) Nozzle arrangement according to Claim 53,
wherein the nozzle arrangement comprises an insertion element arranged in the medium channel, the displacement volume of which increases as the distance interval from the connection aperture increases.

55. (New) Nozzle arrangement according to Claim 52,
wherein the at least one nozzle aperture is formed by at least one nozzle aperture channel, which extends at an acute angle in relation to the conveying plane of the treatment material, and wherein the distribution apertures are formed by distribution channels, which are arranged at an angle in relation to the conveying plane of the treated material which is greater than the angle of the nozzle aperture channels in relation to the conveying plane.

56. (New) Nozzle arrangement according to Claim 52,
wherein that the distribution apertures are offset in relation to the at least one nozzle aperture in the conveying direction of the treated material.

57. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement comprises at least one further nozzle aperture, which is arranged on a side of the conveying plane of the treated material opposite to the at least one nozzle aperture .

58. (New) Nozzle arrangement according to Claim 57,
wherein the nozzle arrangement is designed essentially mirror-symmetrical in relation to the conveying plane of the treated material.

59. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement comprises additional nozzle apertures, which are designed in such a way as to emit the treatment medium essentially perpendicular to the conveying plane of the treated material.

60. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement is designed for use in a device for the wet-chemical treatment of printed circuit boards or printed circuit films as treated material.

61. (New) Nozzle arrangement according to Claim 37,
wherein the treatment channel has such a shape that a negative pressure arises in a defined section of the treatment channel.

62. (New) Nozzle arrangement according to Claim 37,
wherein the nozzle arrangement is designed in such a way that a suction effect in the conveying direction arises at the inlet area.

63. (New) Nozzle arrangement according to Claim 37,
wherein the treatment channel is formed between a wall of a housing, in which the at least one nozzle aperture is provided, and the treated material.

64. (New) Nozzle arrangement according to Claim 37,
wherein a front edge of the nozzle arrangement is bevelled or rounded in the inlet area.

65. (New) Nozzle arrangement according to Claim 37,
wherein the treatment channel is designed in such a way that a negative pressure is created in a defined section of the treatment channel.

66. (New) Device for the wet-chemical treatment of printed circuit boards or printed circuit films comprising a nozzle arrangement,
wherein the treated material is capable of being conveyed within a treatment channel in a conveying plane in a conveying direction from an inlet area to an outlet area of the nozzle arrangement,
wherein the nozzle arrangement is provided with at least one nozzle aperture, which is designed in such a way that a flow of the treatment medium through the nozzle aperture runs at a predetermined

angle obliquely in relation to the conveying plane of the treated material, so that the flow of the treated medium is deflected into the conveying direction of the treated material,

wherein the nozzle arrangement is designed for the treatment of a film-type treated material, and

wherein the treatment channel enlarges in a section between the at least one nozzle aperture and the outlet area in the conveying direction, or the outlet area is provided with guide elements for improved guiding of the film-type treated material, or the at least one nozzle aperture is designed in the form of a slot.

67. (New) Method for the treatment of treated material with a treatment medium, wherein the treated material is conveyed within a treatment channel in a conveying plane in a conveying direction from an inlet area to an outlet area of a nozzle arrangement,

wherein a flow of the treatment medium, which is emitted or received by a nozzle aperture of the nozzle arrangement, is deflected into the conveying direction of the treated material,

wherein the treated material is a film-type treated material, and

wherein the treatment channel enlarges in a section between the at least one nozzle aperture and the outlet area in the conveying direction or the outlet area is provided with guide elements for improved guiding of the film-type treated material, or the at least one nozzle aperture is designed in the form of a slot.

68. (New) Method according to Claim 67,
wherein the treatment medium is emitted or received at a predetermined acute angle of 1-30° in relation to the conveying plane of the treated material.

69. (New) Method according to Claim 68,
wherein the angle amounts to a maximum of 80°.

70. (New) Method according to Claim 67, comprising:
adaptation of the shaping of the nozzle arrangement in order to specifically create a negative pressure in at least one defined area of a treatment channel of the nozzle arrangement.

71. (New) Method according to Claim 70,
wherein the negative pressure is created in the inlet area of the nozzle arrangement, in order for treatment medium to be drawn in from the surroundings of the inlet area.

72. (New) Method according to Claim 67, comprising:
adaptation of the shaping of the nozzle arrangement in order to adjust the flow rate of the treatment medium.

73. (New) Method according to Claim 67, comprising:
adaptation of the shaping of the nozzle arrangement and of the positions of the nozzle aperture and at least one additional nozzle aperture in such a way that, in specific areas of the nozzle arrangement, a negative pressure is created on one side of the treated material and a positive pressure is created on the opposite side.

74. (New) Method according to Claim 67, comprising:
controlling the flow of the treatment medium which is supplied to the nozzle arrangement.

75. (New) Method according to Claim 67, comprising:
controlling the pressure of the treatment medium which is supplied to the nozzle arrangement.

76. (New) Method according to Claim 67, comprising:
creating a suction effect in the conveying direction at the inlet area.

77. (New) Method according to Claim 67,
wherein the treatment channel is formed between a wall of a housing, in which the nozzle aperture is provided, and the treated material.

78. (New) Method according to Claim 67,
wherein a front edge of the nozzle arrangement is bevelled or rounded in the inlet area.